

FLOW-SWITCHING MICRODEVICE

ABSTRACT OF THE DISCLOSURE

A microdevice is provided for controlling fluid flow. The microdevice includes a substantially planar contact surface and a plurality of fluid-transporting features associated therewith. Also included is a substrate having a substantially planar contact surface and a fluid-transporting feature associated therewith. The contact surfaces are positioned in slidable and fluid-tight contact to allow for controllable formation of a plurality of different flow paths upon alignment of the substrate fluid-transporting feature with each cover plate fluid-transporting features in succession. Typically, at least one of the cover plate and substrate is comprised of a biofouling resistant polymer, and the flow paths are of different lengths. Optionally, a plurality of fluid-transporting features is associated with the substrate so that flow paths are formed as a result of a different alignment of the fluid-transporting features.